



...from concept to acquisition

NAVAL WIRELESS NETWORKS SUMMIT

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Sponsored by: NETWARCOM and PEO Ships
Hosted by: SPAWAR AND PEO C4I



The Role of WirelessMAN™ in the Convergence of Wireless Services

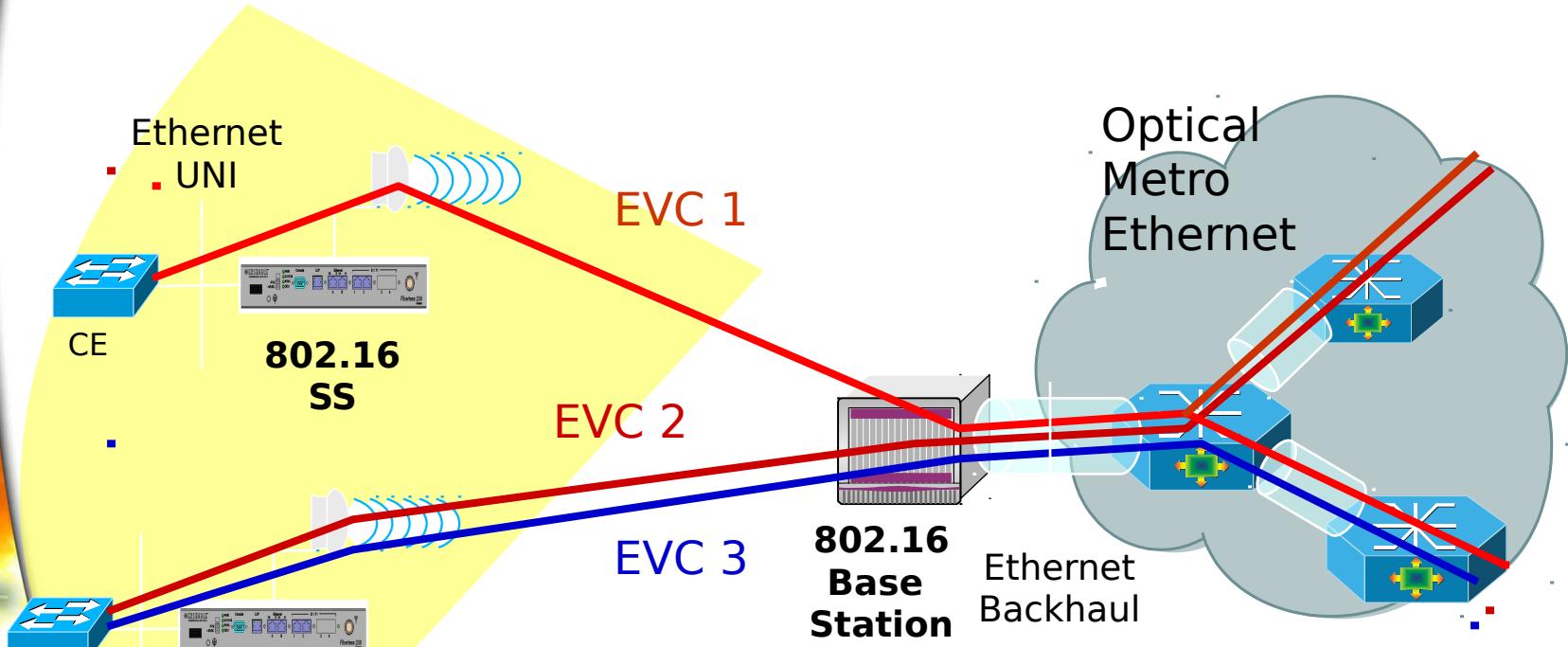
***802.16/WiMAX and its
relationship to other
wireless technologies***



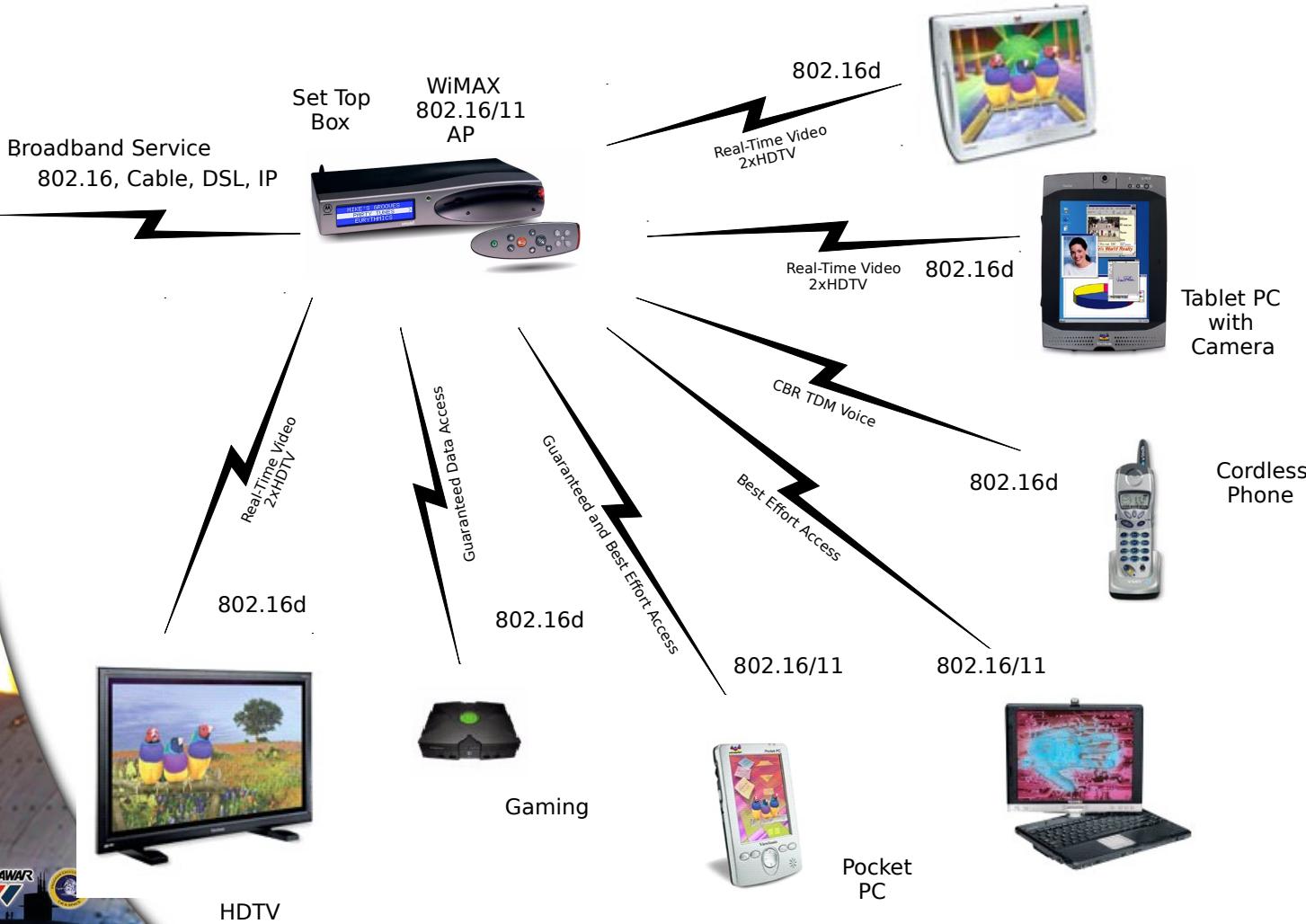
The Problem to Solve

- ***Last Mile Extension of Fiber and Cable***
 - ***Users want access to networks***
 - ***Network operators want access to customers***
 - ***Backhoes do not follow Moore's Law***
- ***Multimedia Distribution***
 - ***Data***
 - ***Data with QoS (Gaming, etc.)***
 - ***Voice***
 - ***Video distribution***
 - ***Real-time videoconferencing***

802.16 in Metro Ethernet



Vision - Wireless Multimedia Distribution





Always Best Connected

- *Laptop or other device with both 802.11 and 802.16 capability*
- *802.16e mobile data/voice device*
 - *Transition outdoors-indoors*
 - *Extended Warrior Networks*
 - *ForceNet applications*
 - *Unmanned systems connectivity*
 - *Shipboard Intra-Ship networks*



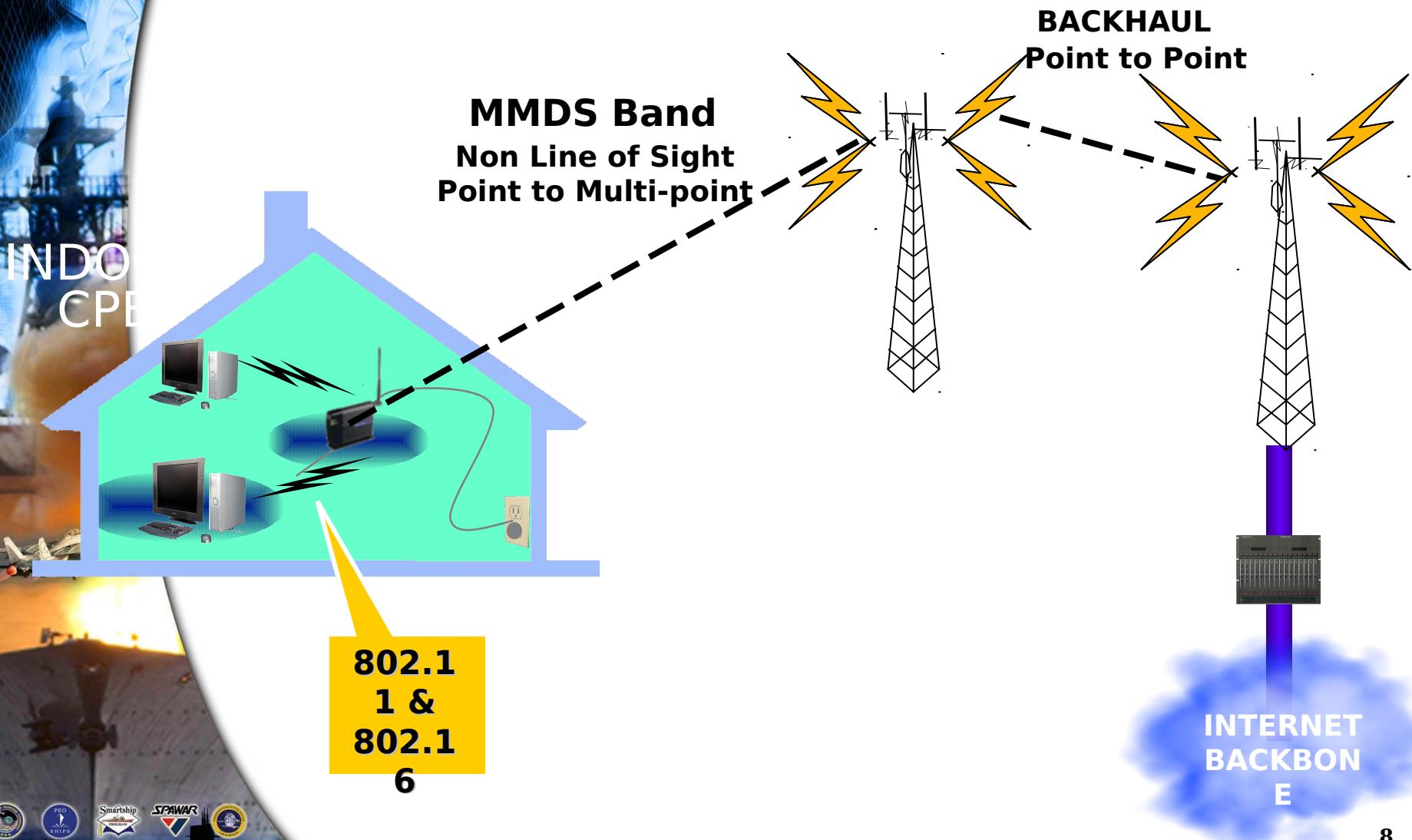


Complementary Capabilities

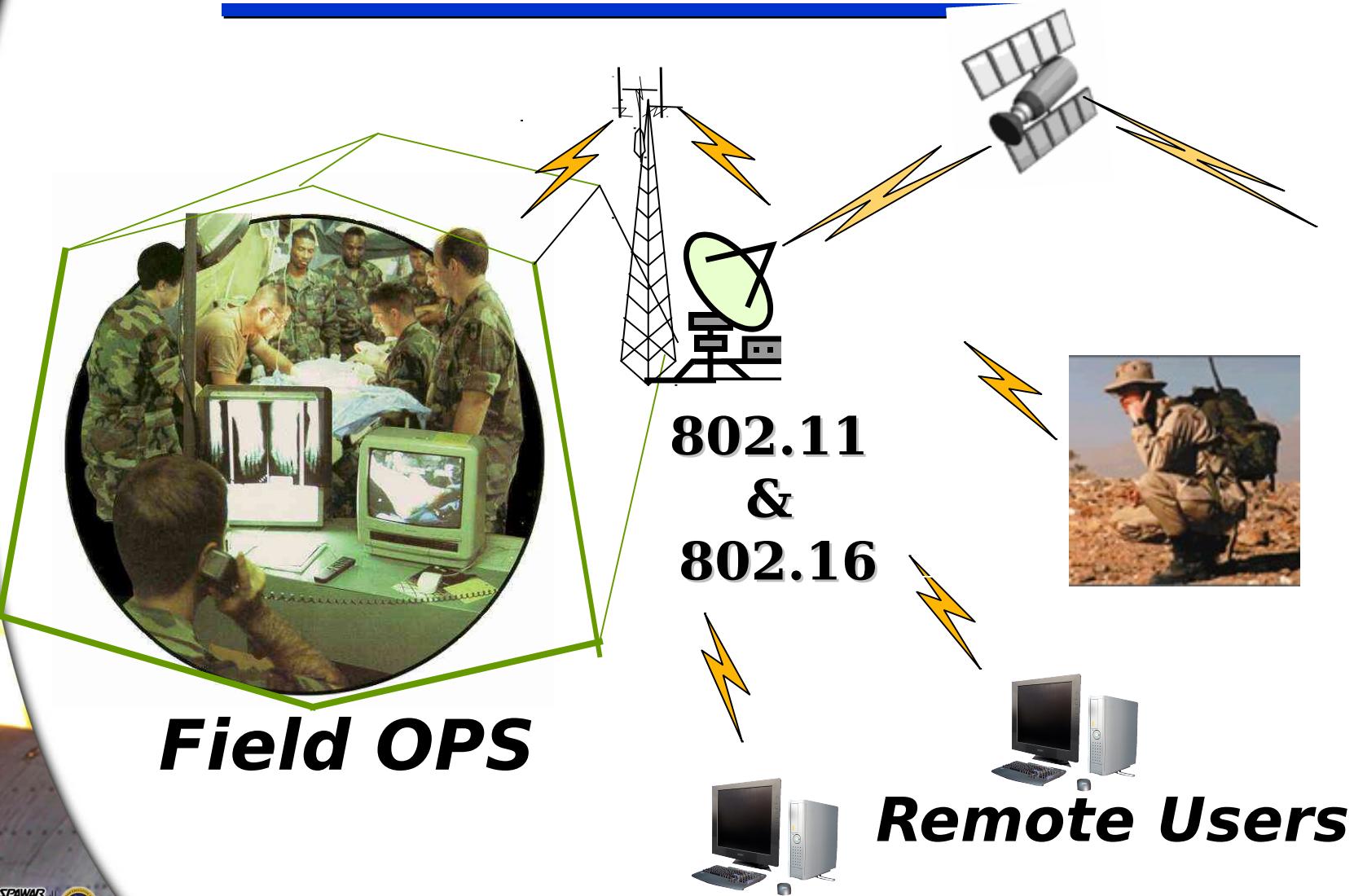
- ***IEEE 802.16/WiMAX***
 - ***Distribution***
 - ***Strict QoS***
 - ***Mobility***
- ***IEEE 802.11/Wi-Fi***
 - ***Data LAN***
 - ***Extensive Availability***
- ***IEEE 802.15.x***
 - ***Cable Elimination***
 - ***Low Power***
 - ***Numerous Application Specific Variants***



Hierarchical Systems



Deployed Wireless Networks





Unmanned Systems use of 802.16 WBN

*Airborne - Terrestrial - Water
Integrated networks*

*Robotic groups networked
communications/control*

*Border
surveilance
from air
and
ground
sensors¹⁰*



Homeland Security Communication Network

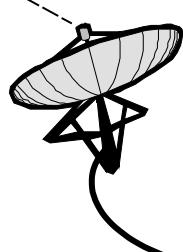


Unmanned
Data relay

Information
flow
From sensors



USCG Cutter

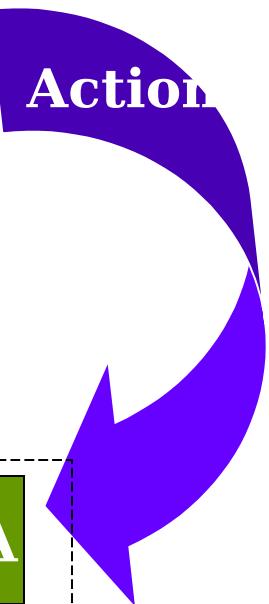


Joint Navy, Civil, Municipal
San Diego program

Joint Harbor
Operations Center
(JHOC)



Action



Fire
Dept.

USCG

Police

FEMA

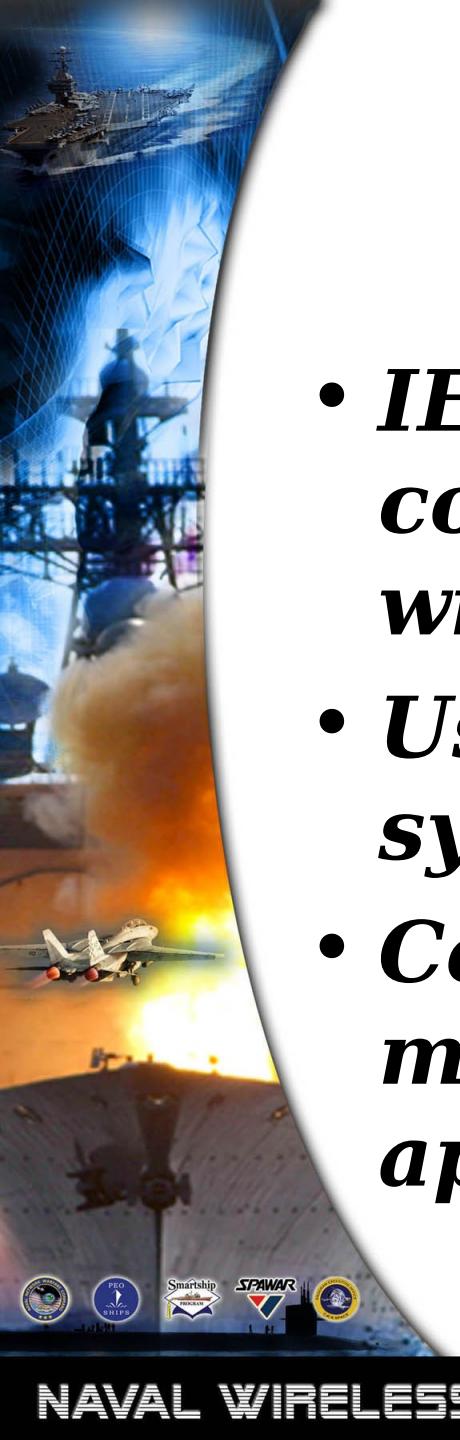
First Responders 802.16
Network





Key Target Programs

- **JTRS Program:** *Solving the network issues*
- **DHS:** *First Responders network*
- **SPAWAR:**
 - *Unmanned Systems interoperability*
 - *Shipboard Networks*
- **CECOM:**
 - *US Army electronics and communications enhancements to mobile comm packages*



Conclusions

- *IEEE 802.16/WiMAX can be complementary with other wireless standards*
- *Users benefit from hierarchical systems*
- *Consumer use scenarios map to military and homeland security applications*

